



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,394	09/01/2004	Heru Prasanta Wijaya	53225/DBP/R130	1425
23363 7590 06/18/2007 CHRISTIE, PARKER & HALE, LLP PO BOX 7068 PASADENA, CA 91109-7068			EXAMINER WU, IVES J	
			ART UNIT 1724	PAPER NUMBER
			MAIL DATE 06/18/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/506,394

Applicant(s)

WIJAYA, HERU PRASANTA

Examiner

Ives Wu

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- (1). Applicant's Amendments and Remarks filed on 4/10/2007 have been received.
Claims 1-10 are amended.

The object of claims 8 and 9 in prior Office Action dated 01/08/2007 is removed in response to the Amendments filed on 04/10/2007.

The rejections for claims 1 and 6 in prior Office Action dated 01/08/2007 are revised and presented together with the rejection of rest claims recited in prior Office Action dated 01/08/2007 herein below.

Claim Rejections - 35 USC § 102

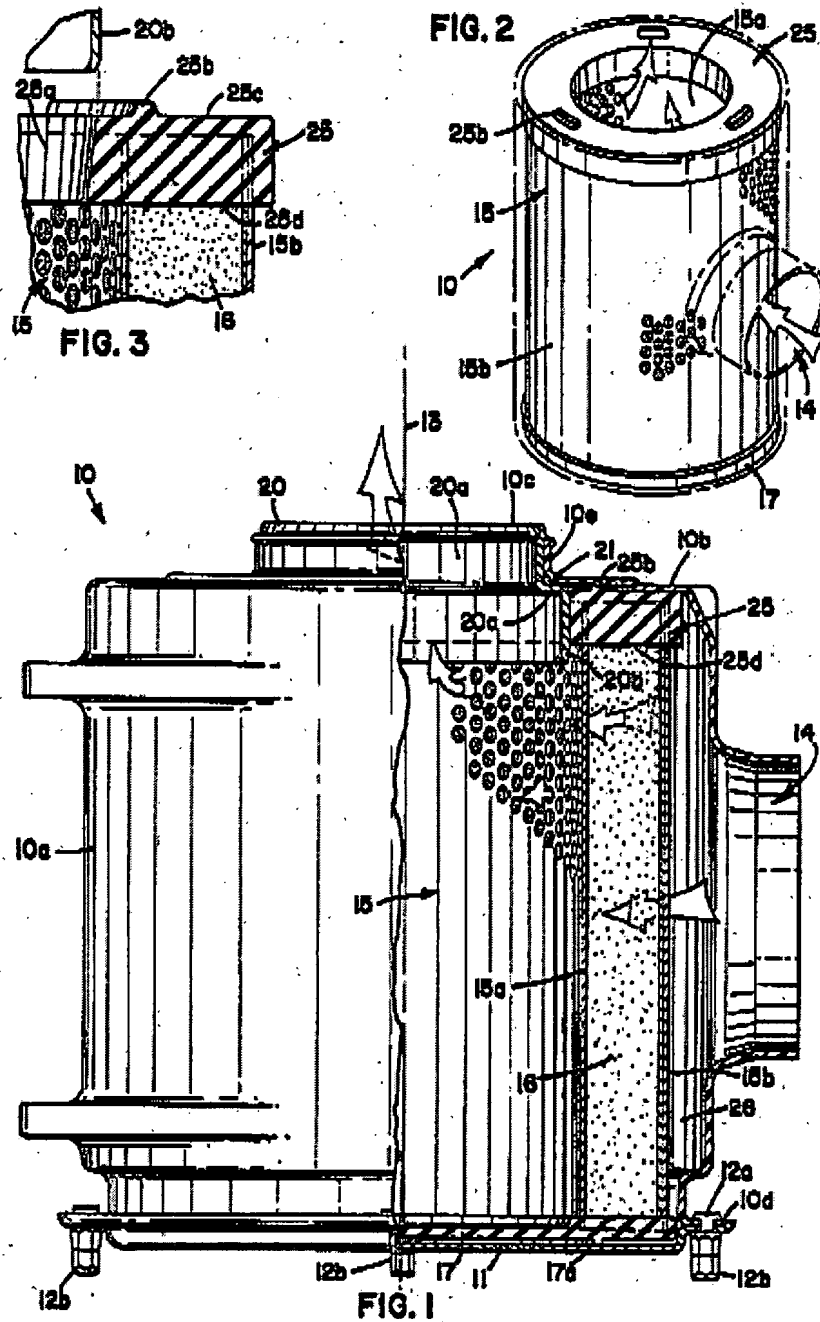
The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

- (2). **Claims 6 - 8** are rejected under 35 U.S.C. 102(b) as being anticipated by Engel et al (US004720292).

As to parts of a filtering medium and inner mesh equipped with lower rubber and upper rubber which functions as a binder as well as stabilizer for the filtering medium and its consistent shape in knocked-down air filter for internal combustion engine in **independent claim 6**, Engel et al (US004720292) disclose a cylindrical, pleated paper filter elements used primarily with over-the-road trucks and agricultural tractors (**internal combustion engine**) (Col. 1, line 7-10). As shown in Figure 1, filter element 15 has an inner liner 15a (**inner mesh**) and outer liner 15b (**perforated plate**), both being cylindrical, and both being constructed from perforated metal. A cylindrical pleated paper filter 16 (**filter medium**) is mounted between the inner liner 15a and outer liner 15b. Filter element 15 has a closed end 17 in the form of a circular cap of a urethane foam material (**lower rubber**) molded thereon. Cap 17 is molded over and holds together the ends of liners 15a, 15b and filter 16 (**binder as well as stabilizer**) (Col. 2, line 60-Col. 3, line 2). End cap 25 is preferably made from an elastomer (**upper rubber**) such as a urethane foam material functioning as a seal or gasket material (**binder as well as stabilizer**). An air filter or cleaner having a housing 10 with generally cylindrical outer wall 10a, a first generally closed end 10b (upper housing) comprising a generally circular end wall having an axial outlet opening 10c,

Art Unit: 1724

and generally open 2nd end having a circular outwardly extending flange 10d to which is connected a removable cover 11 (detachable lower housing) by means of a plurality of threaded bolts 12a and plastic nuts 12b (by means of locker) (Col. 2, line 48-56).



As to allow for replacement of filter medium and the inner mesh without replacing the perforated plate in **independent claim 6**, Engel et al disclose filter element 15 having a closed end 17 in the form of a circular cap of a urethane foam material molded thereon and having a relatively soft, rubber-like consistency. Cap 17 is molded over and holds together the ends of liners 15a, 15b and filter 16 and extends across that end of the filter element 15 to provide a closed end (Col. 2, line 65 – Col. 3, line 2). The seal is self-generated when the end cap is inserted over the tubular outlet member (Col. 1, line 62-63). Therefore, the rubber like cap is used as sealing gasket, not fixed to the filter element, and replacement of filter would not necessarily involve the replacement of inner, outer liner and filter medium together.

As to knocked-down air filter in **independent claim 6**, the disclosure of Engel et al meet the requirements of current claim in terms of the parts and design, it is reasonable to presume that the cylindrical air filter of prior arts would be a knocked-down filter as well. The burden is shifted to applicant to establish that the knocked down air filter of present claim is not the same as or obvious as that set forth by the references.

The same rationale of rejection for **claims 7 and 8** are recited in prior Office Action dated 01/08/2007.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

(3). **Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over Engel et al (US004720292) in view of Oke (US006280491B1) for the same rationale recited in prior Office Action dated 01/08/2007.

(4). **Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Engel et al (US004720292) in view of Heilmann et al (US20010020512A1).

As to limitation of **claim 10**, Engel et al disclose pleated paper filter 16 (Col. 3, line 34). Engel et al **do not teach** the pleated filter medium to be reinforced by a plastic reinforcing substance wound as a ring around the filtering medium as claimed.

However, Heilmann et al (US20010020512A1) **teach** a pleated filter element, at least one adhesive track or reinforcing member is arranged (Abstract). In one preferred embodiment, these

reinforcing members are formed by applying a continuous bead of a hot melt adhesive across the filter element transversely to the direction of the pleats ([0019], line 5-8).

The advantage of applying the hot melt adhesives in such a way is for reinforcement as the pleated filter is bended to a curved configuration (Abstract).

Therefore, it would have been obvious at time of the invention to apply a continuous hot melt adhesives transversely to the pleated filter disclosed by Heilmann et al for the pleated paper filter of Engel et al in order to obtain the above-mentioned advantage.

(5). **Claims 1-5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Coulonvaux (US20010000845A1) in view of Oke (US006280491B1).

As to parts of a filtering medium and inner mesh engaged by lower rubber and upper rubber acting as a binder so that filtering medium and inner mesh engaged integrally in knocked-down air filter for internal combustion engine in **independent claim 1**, Coulonvaux (US20010000845A1) discloses a cylindrical air filter element including an inner liner (**inner mesh**), an outer liner (**perforated plate**), filter media (**filter medium**) captured between a closed end (**detachable lower housing**) and an open end (**upper housing**) as shown in Figure 2 (Abstract, line 6-8). Closed end 44 is in the form of a circular cap of urethane foam material (**lower rubber**) molded thereon and having a relatively soft, rubber-like consistency. Closed end 44 is molded over and holds together the ends of liners 38 and 40 and filter element 42 ([0013], line 9-13). A ring-like end cap 46 is molded over the ends of liners 38, 36 and pleated filter element 42. End cap 46 is preferably made from an elastomeric material (**upper rubber**) such as urethane foam material having a relatively soft, rubber-like consistency so that it is capable of functioning as a seal or gasket material (**binder**) ([0014, line 1-7).

As to the reinforcing pile in knocked-down filter in **independent claim 1**, Coulonvaux **does not teach** a reinforcing pile.

However, Oke (US006280491B1) **teaches** the cartridge filter with a coil spring positioned within the cartridge filter as shown in Figure 10 and 10(a).

The advantage of coil spring is due to the fact that the coil engage between the pleats there is little or no wear on the pleats (Col. 4, line 44-45). Further evidenced by Butler

(US006102978A) that the preformed metal coil has end portions to retain the end caps in place on the filter media (Abstract, line 3-7).

Therefore, it would have been obvious at time of the invention to install the coil spring disclosed by Oke in the cylindrical filter of Coulonvaux in order to obtain the above-mentioned advantage.

As to detachable lower housing, perforated plate and reinforcing pile, upper housing being able to be assembled in **independent claim 1**, Coulonvaux discloses the filter element to be attached to the end cap by inserting the outlet portion of the end cap into the opening defined in the end cap of the filter element. A cover is removable mounted to enclose the 2nd end of the tubular housing ([0005]). The reinforcing pile would be able to be assembled together when the teaching of Oke is combined.

As to parts of filter medium and inner mesh being combined with lower housing, perforated plate, reinforcing pile and upper housing to be formed into a air filter by means of locker in **independent claim 1**, Coulonvaux discloses cover 50 having a plurality of spring-loaded clamps 59 (**locker**) which engage flange portion 58 to secure cover 50 thereto ([0015], line 6-7).

As to the replacement of the filtering medium and inner mesh without replacing the perforated plate and reinforcing pile in **independent claim 1**, Coulonvaux discloses the filter element to be attached to the end cap by inserting the outlet portion of the end cap into the opening defined in the end cap of the filter element. The end cap of the filter element and the outlet portion of the end cap affixed to the housing provide a seal ([0005], line 13-17). Therefore, the end cap is used as seal and not fixed to the filter element, the replacement of filter medium would not necessarily require the replacement of the perforated plate and reinforcing pile.

As to knocked-down air filter in internal combustion engine **independent claim 1**, the disclosure of Coulonvaux, Oke meet the requirements of current claim in terms of the parts and design, it is reasonable to presume that the cylindrical air filter of prior arts would be a knocked-down filter in combustion engineer as well. The burden is shifted to applicant to establish that the knocked down air filter of present claim is not the same as or obvious as that set forth by the references.

(6). The same rationale of rejection for **claims 2-5** are recited in prior Office Action dated 01/08/2007.

Response to Arguments

Applicant's arguments filed on 04/10/2007 have been fully considered but they are not persuasive.

Applicant argues the replacement for the filter as amended in claims 1 and 6 obviating the anticipation by prior art references Engel et al (US04720292), Coulonvaux (US20010000845A1). In reviewing the teaching of both prior arts, the rubber-like end caps are used for sealing, not fixed, engaged with filter element permanently. Therefore, it is reasonable to replace the filter element and inner mesh without the replacement of other parts such as outer liner (Engel et al – US04720292).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ives Wu whose telephone number is 571-272-4245. The examiner can normally be reached on 8:00 - 5:00.

Art Unit: 1724

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Examiner: Ives Wu

Art Unit: 1724

Date: June 13, 2007

DUANE SMITH
PRIMARY EXAMINER

D-A
6-13-07